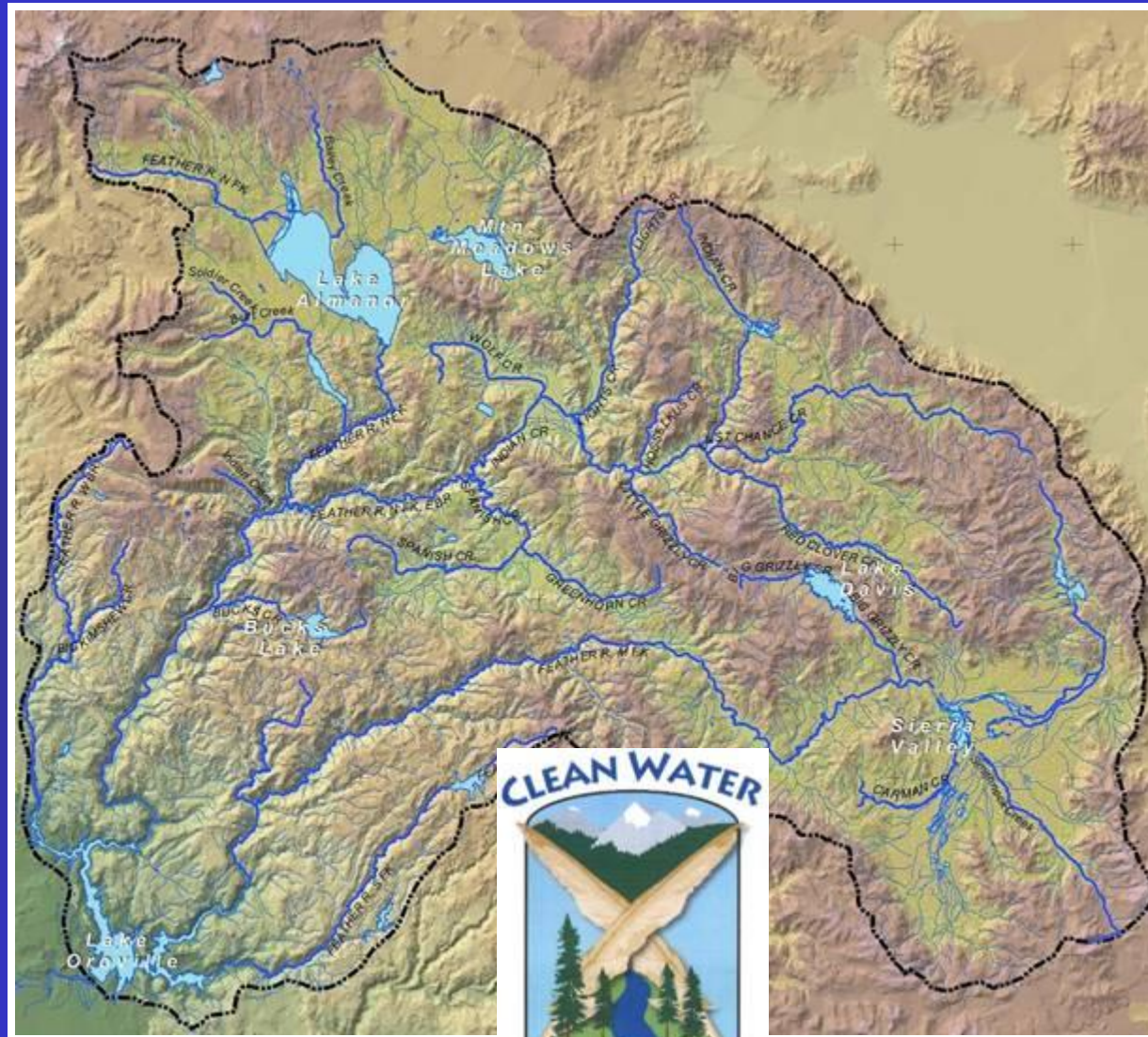
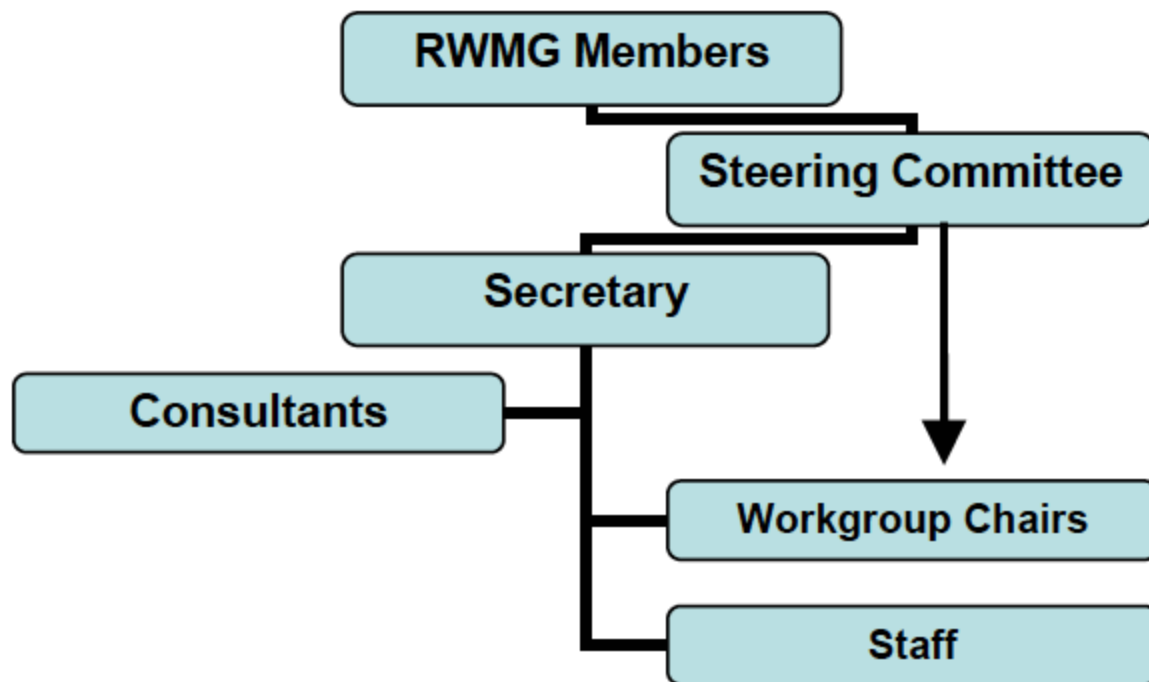


Upper Feather River Watershed IRWM



Feather River Regional Water Management Group

Organizational Chart



Organizations

- Audubon Society
- County of Plumas
- Feather River Coordinated Resource Management
- Feather River Resource Conservation District
- Greenhorn Creek Community Services District
- Grizzly Lake Resort Improvement District
- Honey Lake Resource Conservation District
- Maidu Summit Consortium
- Plumas Corporation
- Plumas County Fire Safe Council
- Quincy Community Services District
- Sierra Institute for Community and Environment
- Sierra Valley Mutual Water Company
- University of California Cooperative Extension
- USDA Forest Service Plumas National Forest
- Walker Ranch Community Services District
- W.M. Beaty & Associates, Inc.
- City of Portola
- County of Sierra
- Feather River Land Trust
- Gold Mountain Community Services District
- Greenville Rancheria
- Grizzly Ranch Community Services District
- Indian Valley Community Services District
- Mountain Meadows Conservancy
- Plumas County Community Development Commission
- Plumas County Flood Control and Conservation District
- Sierra County Fire Safe and Watershed Council
- Sierra Valley Groundwater Management District
- Sierra Valley Resource Conservation District
- Upper Feather River Watershed Group
- USDA Natural Resources Conservation Service
- Feather River Watershed Coordinators

1985 to Present

Feather River Coordinated Resource Management Group

**21 agencies and other members
(DWR, CDF, DFG, USFS, NRCS, PG&E, Local Gov't)**



Formed to address:

- **Loss of Floodplain Connection**
- **Loss of Vegetative Structure**
- **Loss of Biological Processes**
- **Loss of Physical Inputs**
- **Loss of Chemical Processes**

2005 to Present Regional Priorities

Prop. 50/84 IRWM Planning and Implementation

Improving Water Supply and Water Quality for all designated beneficial uses through a focus on “Watershed Management” and “Disadvantaged Communities”

- Integrating land use and water use across jurisdictions, land ownerships, and beneficial uses of water.**
- A consistent strategy to restore hydrologic function and biological connectivity across urban and rural landscapes and land uses.**

IWRM Projects must advance integrated watershed resource goals:

1. Restore 250,000 acres of degraded alluvial valleys

1985 to 2010 - 3,900 acres and 44 miles of stream channel by Feather River CRM

1998 to 2010 - 4,300 acres of riparian restoration by Forest Service/Quincy Library Group

3% of the targeted landscape in 25 years

2. Forest management to enhance upland recharge on 2 million acres while sequestering carbon and reducing threat of catastrophic wildfire

> 100,000 acres (private lands)

> 187,000 acres (National Forest)

14% of the targeted landscape in 12 years

Restoring of Natural Function

Pre-Project Last Chance Creek, Alkali Flat, 2003



Restoring Natural Function

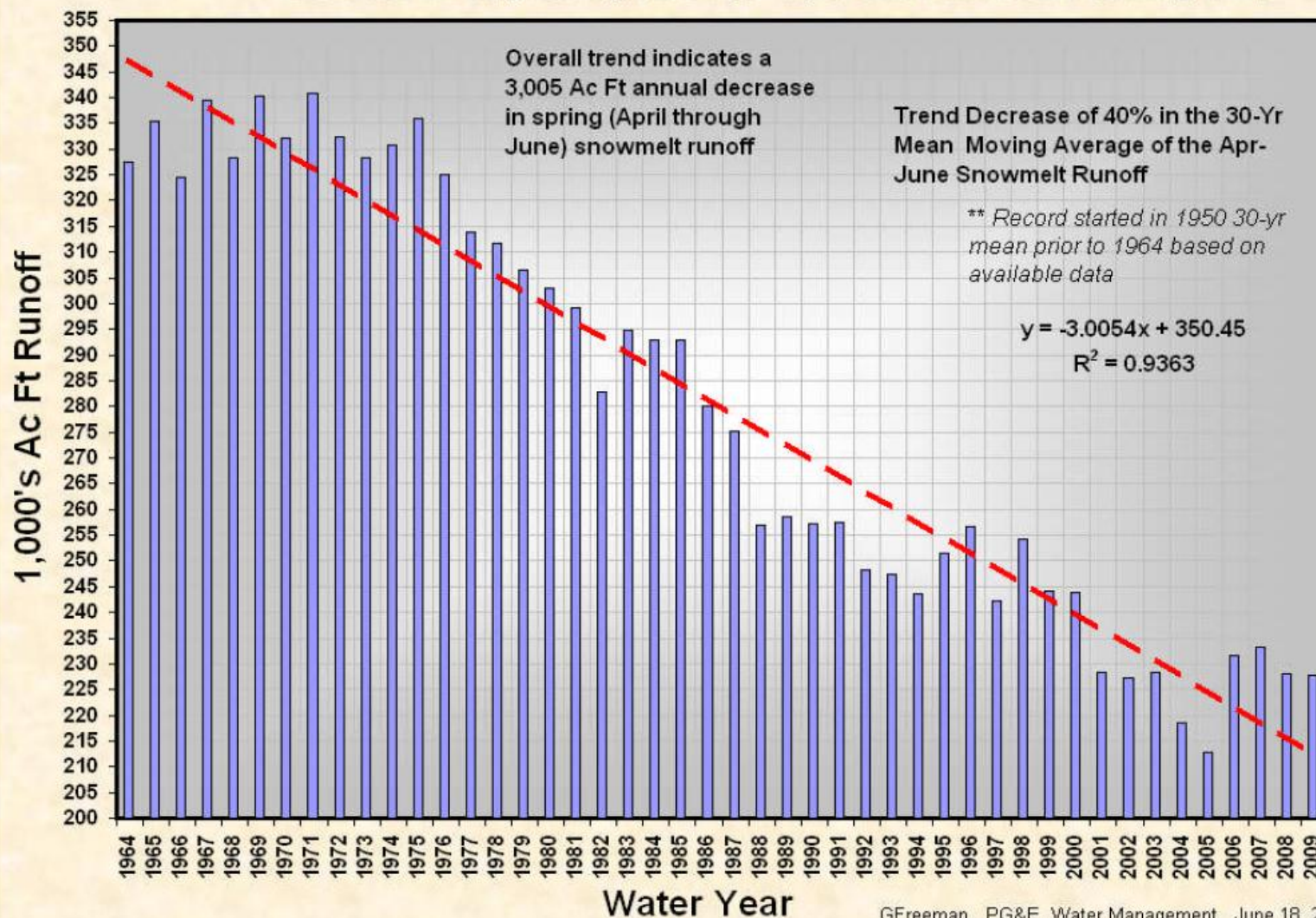
Post-Project Last Chance Creek, Alkali Flat, May 2005



Declining Runoff



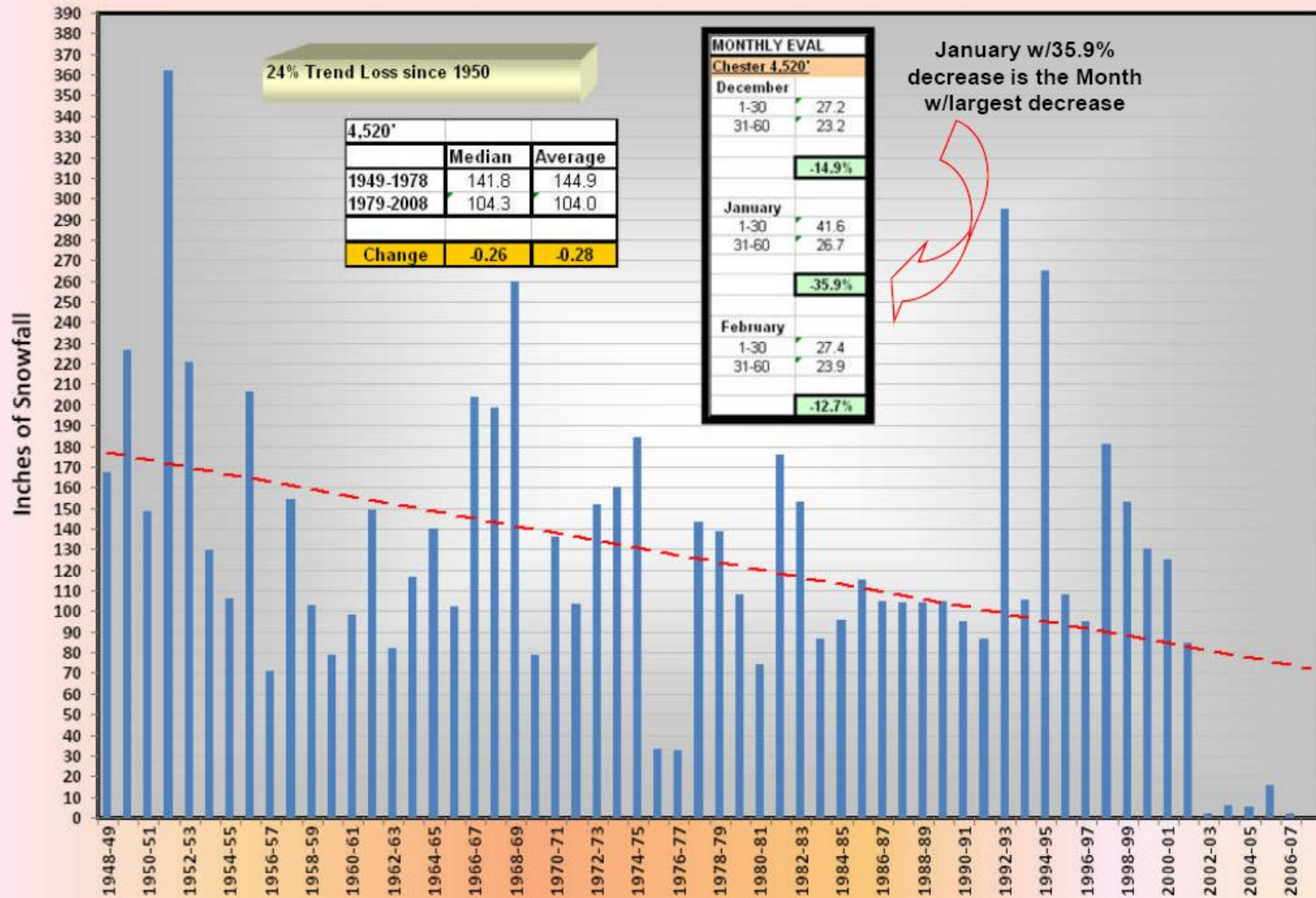
East Branch of No Fk Feather River, CA FNF
1935-2009 moving average of 30-yr** April-June mean Roff starting 1964



Reduced Snowpack Storage



Chester Annual Snowfall - 1949-2008 Elevation=4,520'



July through June

GFreeman, Water Management, PG&E

July 14, 2009

Regional Challenges – Collapse of Delta Fisheries

Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta

DRAFT

California Department of Fish and Game
September 21, 2010

Category	Function	Flow (cfs) (Total 15000)	Year Type	Months												Citation
				O	N	D	J	F	M	A	M	J	J	A	S	
Sacramento River	Increase juvenile salmon outmigration survival and abundance for fall-run Chinook salmon. Increases juvenile salmon outmigration survival	At Wilkins Slough: pulse flow: 20,000 cfs for 7 days ⁸	All		1	1	1									SWRCB (2010)
	Increase juvenile salmon outmigration survival by reducing diversion into Georgiana Slough and the central Delta	At Freeport: 13,000 - 17,000 ⁹	All		1	1	1	1	1	1	1	1				SWRCB (2010)
	Promote juvenile salmon outmigration	At Rio Vista: 20000 – 30000								1	1	1				DFG (2010a)



Headwaters solutions to regional and statewide natural resource challenges

Meadow water storage to augment spring pulse flows and summer baseflows for water quality and fisheries

Forest fuels management to mitigate the fire/flood/mud/mercury cycle and to enhance spring and fall pulse flows and winter flood attenuation for downstream water quality and fisheries



U.S. Forest Service



Enhance coordination between federal and state resource agencies to address interconnected forest, water, ecosystem, and human health problems.

“We propose that the 2011 Planning Rule guide management of NFS lands with a goal of maintaining and restoring healthy, resilient watersheds in order to protect and enhance America’s water resources for humans and the environment.”

“Water is a resource that epitomizes the need for a collaborative all-lands approach: in order to accomplish this goal, managers will need to work closely with neighbors, partners and stakeholders, within the context of the broader landscape.”

“Maintaining healthy watersheds and restoring damaged or degraded watersheds will help them be more resilient to climate change and other stressors, and will optimize their potential to continue to supply clean water and critical aquatic and terrestrial habitat, along with cultural services, recreation opportunities, and other benefits, far into the future.”



<http://planningrule.blogs.usda.gov/>

Water Yield Opportunities From National Forests

- **Water Yield Capability Estimates**

Runoff water in California totals about 71 million acre feet per year. During Forest Plan preparation, analyses were performed to determine each National Forest's potential water yield:

• Forest	per yr. MAF	yield/acre AF
•		
Six Rivers	5.169	5.2
Mendocino	3.404	3.8
Tahoe	2.010	2.4
Shasta-Trinity	5.303	2.4
Klamath	3.950	2.3
Stanislaus	1.970	2.1
Eldorado	1.444	2.1
Plumas	2.470	2.1
Sierra	2.565	1.9
Lassen	1.310	1.2
Sequoia	0.734	.6
Inyo	1.093	.6
Los Padres	0.715	.4
Modoc	0.566	.3
Angeles	0.226	.3
San Bernardino	0.195	.3
Cleveland	0.095	.2
Total	33.536	

- USDA Forest Service
Pacific Southwest Region
630 Sansome Street
San Francisco, CA 94111

2003 to 2009 – Plumas Watershed Forum

Plumas County ~ Department of Water Resources ~ SWP Contractors

**Formed for watershed investment and management
for local and downstream benefit**

2008 Jones & Stokes Review:

- 1. Positive cost/benefit if new “useable” water valued at only \$150/af**
- 2. One-time construction cost for meadow/aquifer storage = \$550/af**



What have we learned in 25 years?

Some things have endured; some things have evolved.

Endured:

- Progress on the ground is the teacher and the driver of more progress. (adaptive management)
- On-the-ground knowledge is as important as state-of-the-art science for a continuous commitment to positive change. (civic science)
- Stewardship ethic permeates the community decade after decade and inspires outside support.
- Local institutional memory offsets agency turnover and shifting politics, policies, and priorities. (institutional continuity with change)
- Restoring the natural functions and hydrology of healthy watersheds solves old problems and new ones. (working with nature for aggregated benefits)

What have we learned in 25 years?

Some things have endured; some things have evolved.

Evolved:

- Interagency and NGO connections evolve to address emerging regional issues – snowpack change; Delta species crash; watershed health and human health connection (e.g. mercury, air quality)
- Examples:
 - DACs and tribal issues and entities span regions
 - Increased connections between rural and urban watershed communities on energy, water, and forests.
 - Problems grow larger and more connected, while local, state, and federal agency resources and budgets shrink.

New Directions

- Increased attention to needs of Disadvantaged Communities (DACs) for community water and wastewater systems upgrades and a new focus on assessing the vulnerability of domestic wells to non point source pollution.

New Directions

- Continued refinement of Tribal consultation and engagement protocols with particular emphasis on mercury pollution and reduction and exposure minimization strategies.
- Continued work with other entities (IRWMs, Mountain Counties Water Association, Sierra Water Workgroup, etc.) on forest-water interactions and water quality and supply reliability at the Mountain Counties scale through a federal-state partnership approach.

New Directions

- In upcoming Upper Feather River IRWM Plan update, a commitment to develop “findings” and a “determination of consistency” between the new Upper Feather River IRWM Plan and the USFS Forest Plan(s), the Water Board Basin Plan, the California Water Plan, and the local General Plan through mechanisms such as the Plumas County Coordinating Council, the Maidu Summit Consortium, the Plumas County General Plan Community Plan Committees, and the IRWM Regional Water Management Group.